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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/782,239	02/13/2001	Toshimitsu Konuma	SEL 239	9357

7590 11/19/2003

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EXAMINER

WILLE, DOUGLAS A

ART UNIT

PAPER NUMBER

2814

DATE MAILED: 11/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/782,239

Applicant(s)

KONUMA ET AL.

Examiner

Douglas A Wille

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7, 15-28, 30, 31, 33-42, 44, 45, 51-57 and 65-84 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1, 5-7, 22-28, 38, 45, 52, 53, 57, 65, 70, 75 and 80 is/are allowed.
- 6) ☒ Claim(s) 2-4, 15-21, 30, 31, 33-37, 39-42, 44, 51 and 54-56, 66-69, 71-74, 76-79, 81-84 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2 – 4, 15, 16, 18 – 21, 30, 33, 35 – 37, 39 – 42, 44, 51, 54 – 56, 66 – 69, 71 – 74, 76 – 79 and 81 – 84 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamada in view of Wolf and Kobayashi et al.

3. With respect to claims 2 – 4, and 15, Hamada shows an electroluminescent display (see cover Figure and column 5, line 20) with a TFT 43, a pixel electrode 103, a light emitting layer 104 – 107, an electrode 108 over the light emitting layer where the pixel electrode has a hole and the pixel electrode is connected to the TFT. Hamada does not show the hole being filled with an insulator but Wolf shows that it is important to planarize the surface (page 201, paragraph 4.4.1.2) with a dielectric. Kobayashi et al. shows that a hydrogen silsesquioxane resin is useful as a planarizing coating. It would have been obvious to modify the Hamada device to include the planarization shown by Wolf for the advantage shown and to use the silsesquioxane resin shown by Kobayashi et al. since it is known to be useful. With respect to the placement of the cathode and anode, Hamada shows the anode as being layer 108 but it would have been obvious to interchange the cathode and anode as a design alternative.

4. With respect to claims 21 and 35 – 37, as noted above the fill would be flush since it is planarized.

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5. With respect to claim 39 - 42 and 44, 51, the Hamada device is a display.
6. With respect to claim 16, the transistor 43 is a TFT.
7. With respect to claims 18 and 19, the designation of anode and cathode is arbitrary and it would be obvious to select either polarity.
8. With respect to claim 20 and 54 – 56, the Hamada electroluminescent material is organic.
9. With respect to claims 30, 33, it would be obvious to use the display in any device requiring a display.
10. With respect to claims 66 – 69, Hamada shows the flattening film could be polyimide or acrylic (column 8, line 39).
11. With respect to claim 71 – 74, Kobayashi et al. shows siloxanes and their use would be obvious as a design choice.
12. With respect to claims 76 – 79, it would be obvious to use any siloxane.
13. With respect to claims 81 – 84, it would be obvious to adjust the viscosity to a value commensurate with the desired film thickness and spin conditions.
14. Claims 31 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamada.
15. With respect to claims 31 and 34 it would be obvious to use the display in any device requiring a display.
16. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamada in view of Wolf and Kobayashi et al. and further in view of Shi et al.

17. Shi et al. show an OED array (see Figure 2 and column 3, line 6) with transistors 6 in the substrate. It would have been obvious to form the devices in the substrate as shown by Shi et al. to take advantage of the superior transistor quality of bulk devices.

***Allowable Subject Matter***

18. Claims 1, 5 – 7, 22 – 28, 38, 45, 46, 50, 52, 57, 58, 62, 65, 70, 75 and 80 are allowed.

19. The prior art does not show that the fill is discrete and extends above the surface level.

***Response to Arguments***

20. Applicant argues that there is no reason to combine Hamad with Wolf since Wolf is not concerned with a hole in a pixel electrode but note that Wolf teaches that a planarized surface must be provided for subsequent electrode formation and since Hamada shows that a final electrode 108 is applied, it would be obvious to planarize to prevent problems with that electrode.

21. Applicant argues that neither Hamada nor Wolf show filling an electrode hole. Yes they do. Hamada shows that the hole is filled.

***Conclusion***

22. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

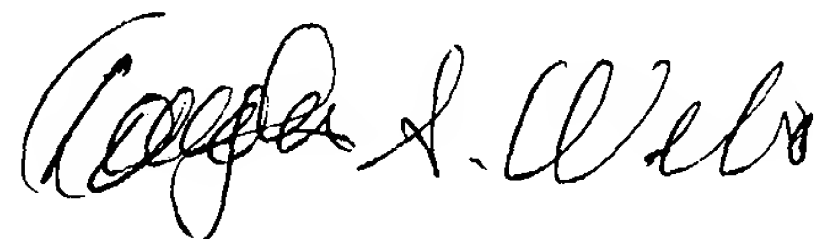
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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas A Wille whose telephone number is (703) 308-4949. The examiner can normally be reached on M-F (6:15-2:45).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (703) 308-4918. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

A handwritten signature in black ink, appearing to read 'Douglas A. Wille', is positioned above the printed name and title.

Douglas A. Wille  
Patent Examiner

November 13, 2003